Medi-Cal Births

Calendar Year 2006

October 2010
Research and Analytic Studies Section
California Department of Health Care Services

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EXECUTIVE SUMMARY: MEDI-CAL BIRTHS – CALENDAR YEAR 2006

Childbearing is the primary medical reason for women under age 65 to seek health care services in the Medi-Cal program.[1] Birth outcomes are an important measure of the health of a population. The mission of the Research and Analytical Studies Section (RASS) is, in part, to monitor health outcomes for Medi-Cal beneficiaries, to identify health disparities when they exist, and to study subpopulations that contribute substantially to the overall healthcare use and health outcomes of Medi-Cal beneficiaries.

The Medi-Cal Births - Calendar Year 2006 report presents detailed data for 2006 California resident births, including data on maternal and birth characteristics and select outcomes for births paid under the fee-for-service and managed care programs of Medi-Cal. Comparisons are made between births in the Medi-Cal fee-for-service and Medi-Cal managed care programs, as well as births paid by private insurance or from other public funding sources. These data are important in several ways: 1) they provide a profile of the Medi-Cal beneficiaries that seek care for delivery services; 2) they identify factors that may contribute to variations in birth outcomes; and 3) they provide useful comparison between Medi-Cal birth outcomes and those of other births in the state. Because birth outcomes are important predictors of infant mortality and morbidity, routine monitoring of these data is essential.

Key Findings

- In 2006, 41.3% of all births to resident Californians were paid by the Medi-Cal program. Of the 232,241 births to Medi-Cal beneficiaries, 74.7% were to mothers in the Fee-for-Service program and 25.3% were to Managed Care program beneficiaries.

- On average, Medi-Cal mothers who gave birth in 2006 were younger compared to mothers with births financed by private insurance or other public funding sources (mean age 25.7 vs. 29.6, respectively). The proportion of births to teen mothers (15.2%) was three times as high among Medi-Cal beneficiaries as among births paid by non Medi-Cal sources (5.6%). The largest proportion of births to teen mothers was among the Medi-Cal Managed Care population at 19.1%.

- A large segment of Medi-Cal financed births were to mothers of Hispanic ethnicity (73.4%), foreign-born mothers (58.6%), and mothers with less than a high school education (60.9%). The prevalence of foreign-born mothers was much higher among Medi-Cal Fee-for-Service beneficiaries (70.5%) than for Medi-Cal Managed Care beneficiaries (23.6%). The proportion of African American mothers among Medi-Cal Managed Care beneficiaries (14.3%) was nearly three times as high as among births paid by other sources.

- Parity levels were higher among Medi-Cal beneficiaries than among non Medi-Cal births. The proportion of mothers with two or more previous births was 35.7% among those receiving Medi-Cal services compared to only 26.4% among non Medi-Cal mothers. However, multiple gestation births were more common among non Medi-Cal mothers (4.3%) compared to Medi-Cal beneficiaries (1.4%).

- The proportion of Medi-Cal beneficiaries receiving prenatal care during their first trimester of pregnancy was relatively high at 80%. In contrast, 92% of mothers who were privately insured received prenatal care in the first trimester of pregnancy. Beneficiaries of the Medi-Cal Managed Care program had the lowest rates of early prenatal care initiation at 77.8%.

- Births paid by private insurance or other public funding sources were more likely to be of low birthweight (7.3%) and very low birthweight (1.3%) compared to Medi-Cal births with a low birthweight prevalence of 6.2% and a very low

birthweight prevalence of 1%. However, when controlling for multiple gestation births, these differences were reversed.

- Among singleton births, 5.5% of Medi-Cal and 5.1% of non Medi-Cal births were low birthweight. The prevalence of low birthweight ranged from 4.7% among births paid by private insurance to 6.5% for births paid by other public funding sources. Births paid by Medi-Cal Managed Care had a low birthweight rate of 6.3%.

- The prevalence of preterm and very preterm deliveries among singletons was higher among Medi-Cal (10.2% and 1.5%, respectively) compared to non Medi-Cal births (8.5% preterm and 1.2% very preterm). The highest rates of preterm deliveries were among the Medi-Cal Managed Care beneficiaries at 11.3%. Rates of very preterm were also highest among Medi-Cal Managed Care births (1.8%) and births paid by other public funding sources (1.9%).

- In summary, Medi-Cal beneficiaries with singleton deliveries had similar low birthweight and very low birthweight outcomes compared to their counterparts whose births were not paid by Medi-Cal. Preterm and very preterm rates were higher among Medi-Cal financed births compared to births financed by non Medi-Cal sources. Variations in adverse birth outcomes were also observed when comparing Medi-Cal Fee-for-Service to Medi-Cal Managed Care births.

- The descriptive data presented in this report show that a larger proportion of women in Medi-Cal were from subgroups most vulnerable to adverse birth outcomes. These subgroups include women receiving services through the Aged Blind and Disabled aid category, teen mothers, African American mothers, mothers of increased parity levels, and mothers of lower educational attainment. Protective factors such as being foreign-born and receiving early prenatal care were less prevalent among the Medi-Cal Managed Care population. These

factors may help explain some of the differences in rates of low birthweight, very low birthweight, preterm and very preterm deliveries that are reported here.

INTRODUCTION

Medicaid is a significant financer of maternal and child health care services nation-wide. In 2003, approximately 1.5 million births (41%) in the US were paid by the Medicaid program.[2] Each year California's Medicaid program, known as Medi-Cal, is responsible for financing between 41% and 46% of all births in the state.

The current report presents detailed data for 2006 California resident births, including data on maternal and birth characteristics and select outcomes for births paid under the fee-for-service and managed care programs of Medi-Cal. Comparisons are made between births in the Medi-Cal fee-for-service and Medi-Cal managed care programs, as well as births paid by private insurance or from other public funding sources. These data are important in several ways: 1) they provide a profile of the Medi-Cal beneficiaries that seek care for delivery services; 2) they identify factors that may contribute to variations in birth outcomes; and 3) they provide useful comparisons between Medi-Cal birth outcomes and those of other births in the state. Birth outcomes are an important measure of the health of a population. And, because birth outcomes are important predictors of infant mortality and morbidity, routine monitoring of these data is essential.

METHODS

Data in this report are based on birth certificates registered in California and recorded on the 2006 birth statistical master file maintained by the California Department of Public Health, Center for Health Statistics. Additionally, data from Medi-Cal inpatient hospital claims containing dates of services from January 1, 2006 through December 31, 2006 and a delivery diagnosis code were utilized to identify women giving birth in 2006 under the fee-for-service program. Women with a delivery under the managed care program were identified, in part, using the Medi-Cal eligibility file. Women of reproductive age with eligibility during the period January 1, 2006 to

December 31, 2006 were considered for inclusion in a subsequent process of deterministic and probabilistic linkages to the birth statistical master file.

Data from the Medi-Cal inpatient claims and eligibility file were matched to the birth statistical master file using LINKS software developed by the University of Manitoba. Data elements that were used to perform a combination of deterministic and probabilistic linkages included: birth mother's name, social security number, address, mother's birth date, dates of service and hospital code (where known). Over 95% of births identified in the inpatient fee-for-service claims were matched to a corresponding birth certificate record. Overall, 90% of birth records indicating an expected payer source of "Medi-Cal" were confirmed Medi-Cal beneficiaries through matches made with the hospital claims and eligibility files.

The data were grouped into four broad categories based on the Medi-Cal matches made in the process described above and by using the payer source reported in the birth statistical master file. These grouping are: Medi-Cal Fee-for-Service, Medi-Cal Managed Care, Private Insurance, and Other. The "Other" grouping includes 26,857 birth records with a payer source of "Medi-Cal" that could not be confirmed through the matching process, and birth records containing a reported payer source of "Other Federal State or Local Government Programs," "Self Pay," "Indian Health," "Champus/Tricare," "Other," and "Unknown."

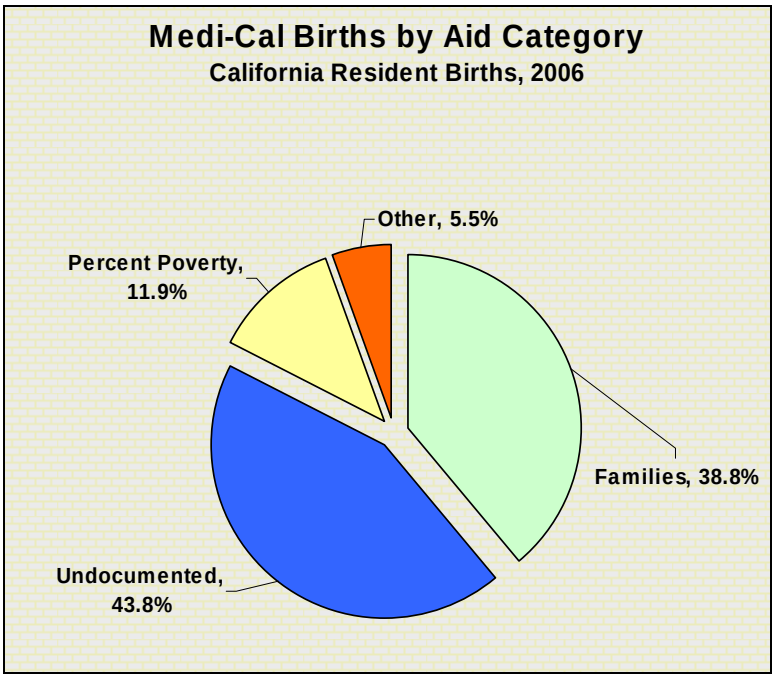
Data presented on maternal characteristics (mother's age, race/ethnicity, nativity, and education), birth characteristics (singleton/multiple birth, delivery method, prenatal care), and birth outcomes (birthweight, gestational age) are the data as reported on the birth certificate. Medi-Cal Aid groupings are derived using data from the Medi-Cal eligibility file for the month during which the birth occurred, and are reported for both Fee-for-Service and Managed Care beneficiaries. Data tables which reflect county-specific tabulations have been censored for counties with populations less than 50,000 (based on county population estimates, Department of Finance, Table E-2) to protect the confidentiality of Medi-Cal beneficiaries.

FINDINGS

Medi-Cal Characteristics

In 2006, 41.3%* of births to resident Californians were paid by the Medi-Cal program. More than half of these births were to beneficiaries residing in Los Angeles, Orange, San Bernardino, Riverside and San Diego counties. Of the 232,241 Medi-Cal financed births, 74.7% were to beneficiaries in the Fee-for-Service program and 25.3% were to Managed Care program beneficiaries.

A large segment of the Medi-Cal financed births were to beneficiaries eligible for services through the undocumented alien eligibility codes (43.8%) or through aid codes associated with AFDC, CalWORKS or other family assistance programs (38.8%). More than half (59.1%) of Medi-Cal beneficiaries who gave birth in 2006 were between the ages of 20 and 29, were Hispanic mothers (73.4%), foreign-born (58.6%), and had less than a high school education (60.8%).



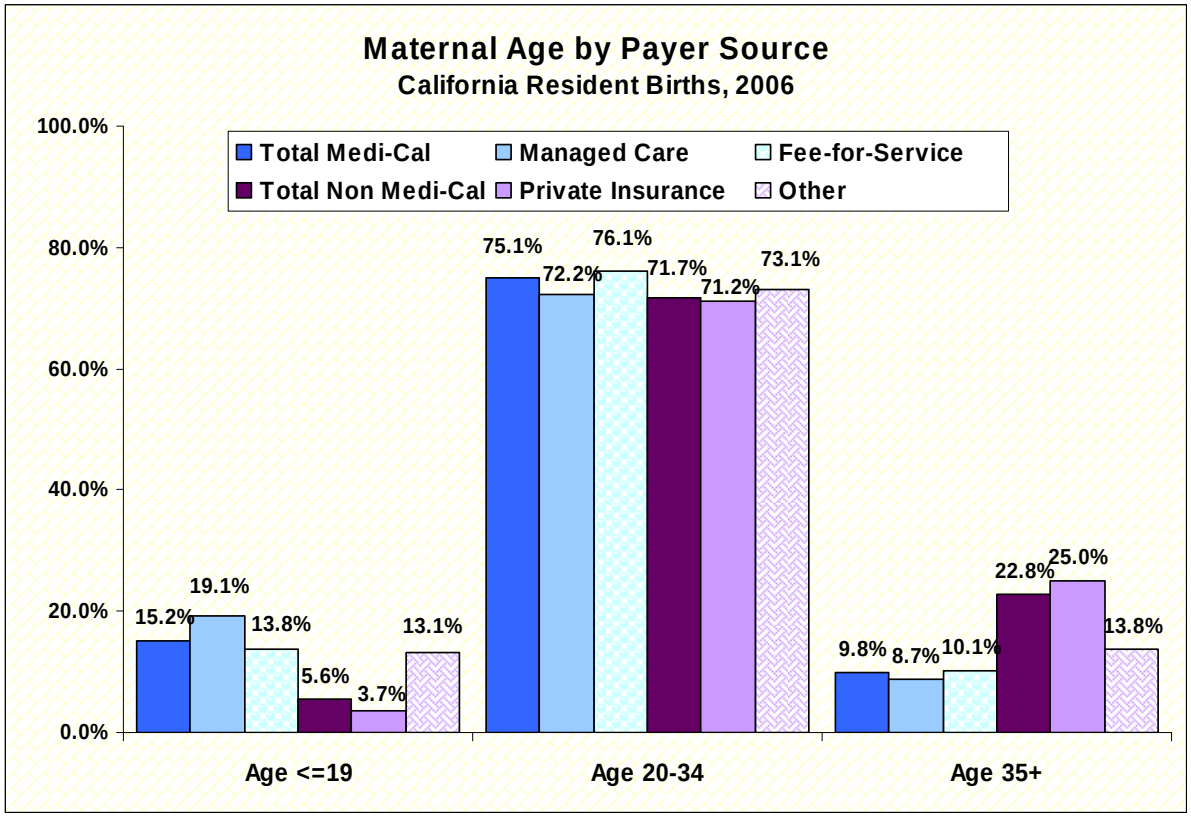
* The methodology used to confirm Medi-Cal births in 2006 was changed and may represent a more conservative estimate of Medi-Cal birth counts than has be utilized in previous years.

Maternal Demographic Characteristics

Age

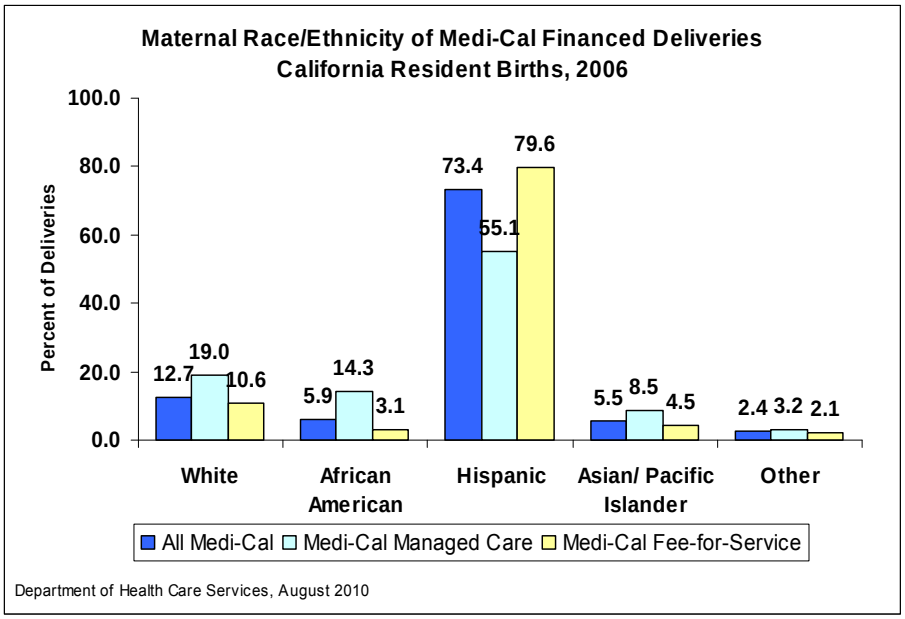
Mothers with Medi-Cal financed births were, on average, younger than mothers whose births were paid by other sources. Among Medi-Cal paid births, the mean maternal age was 25.7 (median = 25), whereas the mean maternal age among non-Medi-Cal births was 29.6 (median=30).

The largest proportion of Medi-Cal financed births were to mothers age 20-34 (75.1%), an additional 15% of Medi-Cal births were to teen mothers (age <=19), and 9.8% were to mothers age 35 and older. Medi-Cal paid for three times as many teen births compared to births paid by private insurance or other public funding sources (15.2% vs. 5.6%, respectively). Teen births are most prevalent in the Medi-Cal Managed Care program at 19.1%. Births to teen mothers are of particular concern since they are more likely to be premature and of low birthweight.[3,4,5] Premature and low birthweight babies are at increased risk for death and a host of disabling health conditions.[6,7,8]



Race/Ethnicity

Mothers of Hispanic ethnicity comprise a large segment of Medi-Cal financed births. Overall, 73.4% of births paid by Medi-Cal are to Hispanic mothers, while only 37.2% of non Medi-Cal financed births are to mothers of Hispanic ethnicity. Additionally, 12.7% of Medi-Cal financed births were to White mothers, 5.9% to African-American mothers, 5.5% to Asian or Pacific Islander mothers, and 2.4% to mothers of other race/ethnic backgrounds. Differences in race/ethnic composition exist between mothers enrolled in the Medi-Cal Fee-for-Service program compared to those enrolled in Medi-Cal Managed Care. While 5.9% of all Medi-Cal births are to African-American mothers, a proportion similar to that for all non Medi-Cal births (4.9%), the proportion of African-American births financed through the Medi-Cal Managed Care program is nearly 2.5 times that or 14.3%. These differences are important to recognize since, compared with whites, African-American mothers have higher rates of low birthweight and preterm deliveries which are leading contributors to infant mortality.[9,10,11,12]



Nativity

Differences between US-born versus foreign-born mothers with regard to low birthweight and premature births have long been reported in the literature. Foreign-born mothers of virtually every racial and ethnic group in the US experience better birth outcomes compared to their US-born counterparts, despite their low socioeconomic status, low educational attainment, and lack of or late onset of prenatal care.[13,14] Among Medi-Cal financed births, 41.3% are to US-born and 58.6% are to foreign-born mothers. A larger segment of the non Medi-Cal financed births are US-born mothers (62.2%), and a smaller segment (37.6%) are foreign-born mothers. Stark differences exist when comparing the Medi-Cal Managed Care beneficiaries with the Medi-Cal Fee-for-Services beneficiaries. In Medi-Cal Managed Care, 23.6% of mothers are foreign-born whereas over 70% of mothers in the Medi-Cal Fee-for-Services program are foreign-born.

Education Status

Maternal educational attainment has an important effect on the number of births and the likelihood of adverse birth outcomes.[3,15] Mothers with Medi-Cal financed births

were, on average, lower educated than mothers with non Medi-Cal financed births. Overall, 60.9% of mothers in Medi-Cal had less than a high school education, 19.5% had a high school diploma, and 17.4% had some college or a college degree. Conversely, 60.8% of non Medi-Cal mothers had some college or had attained a college degree, while 16.5% had a high school diploma and 19.4% had less than a high school education.

Birth Characteristics

Parity

High parity can increase the risk for adverse birth outcomes such as low birthweight, premature birth, stillbirth and neonatal death.[16,17] Among Medi-Cal beneficiaries, 35.9% were first time mothers, 28.4% had one previous birth, and 35.7% had two or more previous births. Medi-Cal Managed Care mothers had the highest parity with 39.8% having two or more previous births. Among non Medi-Cal births, and particularly among the privately insured, mothers had lower parity. Over 40% of non Medi-Cal mothers were first time mothers, 33.2% had one previous birth, and 26.4% had two or more previous births.

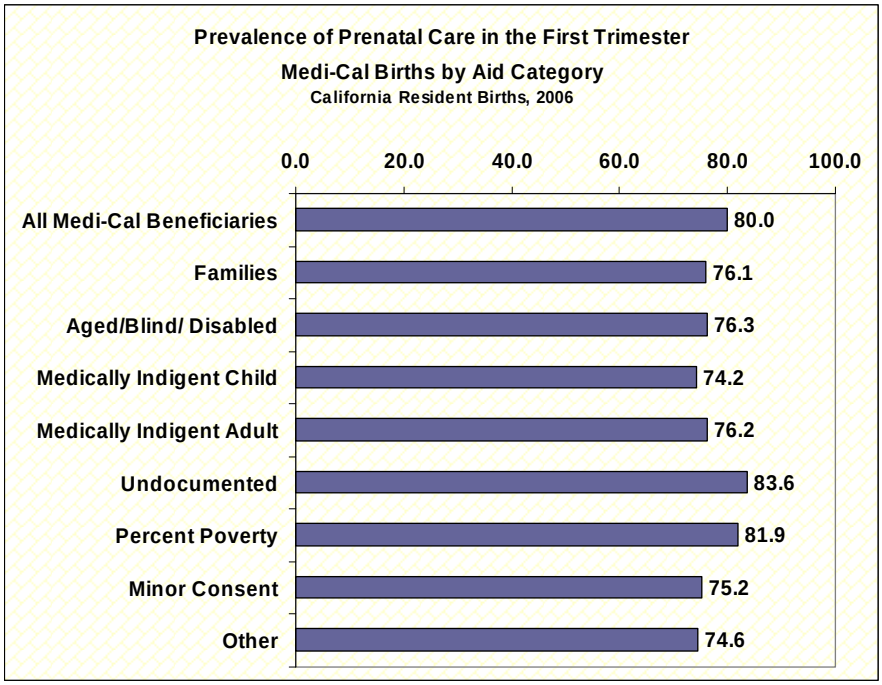
Multiple Gestation Births

Infants born in multiple gestation births (twins or higher) are more likely to be of low birthweight or to be born prematurely.[3,18] Multiple gestation births are more common among older mothers or mothers using artificial reproductive technology.[19,20] These babies are also more likely to be delivered via cesarean section. Among Medi-Cal Fee-for-Service beneficiaries, less than 1% were multiple gestation births, while among Medi-Cal Managed Care beneficiaries, 2.6% were to multiple gestation births. Twin or higher births were more common among all non Medi-Cal births at 4.3%, and particularly among births that were paid by other public funding sources (5.1%).

Prenatal Care

Since important developments occur within the fetus during the first 12 weeks of pregnancy, timely prenatal care is essential. Women who receive prenatal care later in their pregnancies are at increased risk for having a preterm or low birthweight infant, and having an infant requiring care in an intensive care unit.[21] Among all Medi-Cal beneficiaries, 80% received prenatal care during their first trimester of pregnancy, 15.9% received prenatal care in their second trimester, and 3.1% received care in their third trimester of pregnancy. In contrast, 92% of privately insured mothers received

prenatal care during their first trimester, while only 7.6% received care during their second or third trimester of pregnancy. The lowest rates of early prenatal care were among the Medi-Cal Managed Care beneficiaries (77.8%) and mothers with births paid by other public funding sources (76.5%). Medi-Cal beneficiaries receiving care via the undocumented and percent poverty aid categories had the highest rates of prenatal care during the first trimester of pregnancy (83.6% and 81.9%, respectively).

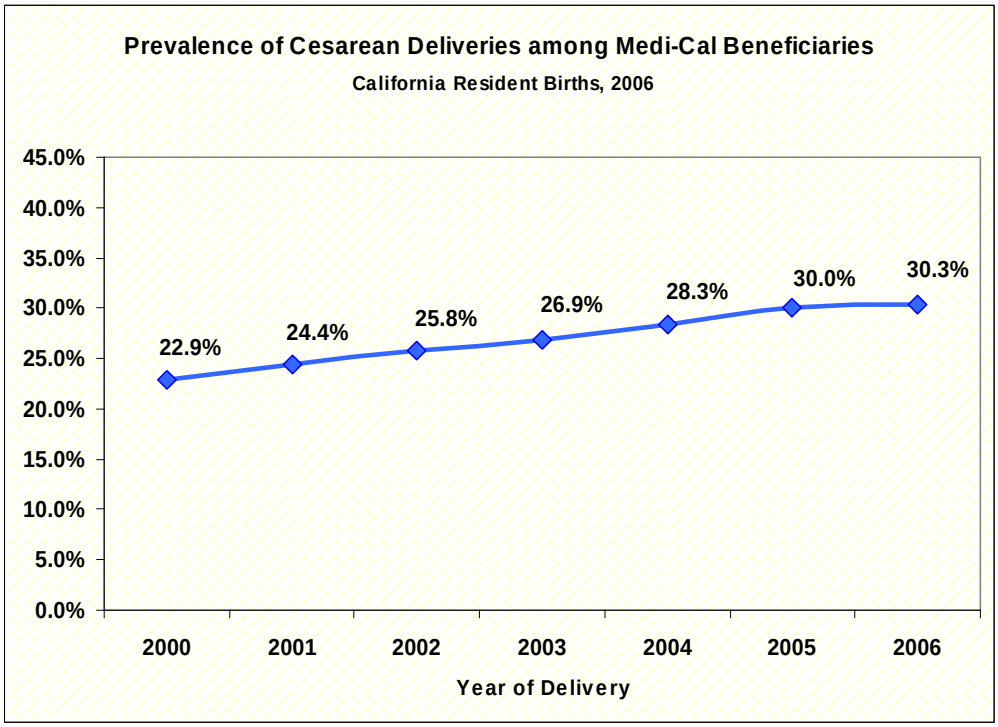


Delivery Method

In 2006, 31% of all births in the US were delivered via cesarean section, a method that is costly and poses additional health risks for both mother and infant.[22] In California 31.3% of all births were delivered via cesarean section. Among Medi-Cal births, the cesarean section rate is slightly lower than the state average at 30.3%, but is similar across Medi-Cal Managed care and Fee-for-Service funded deliveries. Among non Medi-Cal funded births, the cesarean delivery rate is 32.0% and highest among privately insured deliveries at 32.4%. Primary cesarean section is lower among Medi-Cal than among non Medi-Cal deliveries (16.1% and 19.4%, respectively). Among Medi-Cal beneficiaries, rates of primary cesarean section were higher for women less

than age 20 (18%), women age 34-44 (18%), and women over age 45 (29%). Primary cesarean section was more prevalent among Medi-Cal's African American women (20.4%), beneficiaries of multiple race (20%), and beneficiaries with a college education (20.5%). Though overall cesarean rates were higher among women with non Medi-Cal funded deliveries, non Medi-Cal mothers had lower than average primary cesarean rates (<19.4%) if they were younger than age 30, Hispanic or Native American, and had lower levels of education (high school diploma or less than high school education).

California's overall Medi-Cal cesarean rates have increased by 32% in the last several years, from 22.9% in 2000 to 30.3% in 2006. Clear clinical indications exist for undergoing a cesarean delivery, but non-medical factors also influence these rates and include maternal choice, physician practice patterns, and nationally recommended practice guidelines.



Birth Outcomes

Low Birthweight

Low birthweight is a major contributor to infant mortality. In the US, the three leading causes of infant death are congenital defects, low birthweight and sudden infant death (SIDs), all of which account for 44% of infant deaths nationally.[9,23] Hospital costs to infants born in the low birthweight (<2500 grams) and very low birthweight ranges (<1500 grams) are substantially higher than for normal birthweight infants (≥2500 grams).[24] In addition, infants born at low or very low birthweights are at increased risk for life-long and disabling health conditions.[8]

The overall low birthweight rate among Medi-Cal births was 6.2%, compared to 7.3% among all non Medi-Cal births. Low birthweight rates were slightly higher among births to Medi-Cal Managed Care beneficiaries (6.3%) as compared to Fee-for-Service beneficiaries (5.2%). Among all Medi-Cal beneficiaries, low birthweight was highest among mothers in the youngest and oldest age groups (Age <15 = 8.5%, Age 45+ = 13.2%), among African American mothers (12.7%) and mothers of multiple race/ethnicity (8.0%), among mothers in Medi-Cal's Aged Blind and Disabled aid category (12.5%), and among multiple gestation births (59%). Medi-Cal mothers least likely to give birth to a low birthweight baby were those age 20-30, Hispanic and foreign-born mothers, mothers with a college degree, and those with one previous birth. When examining all non Medi-Cal births, low birthweight rates were highest among the youngest and oldest mothers (Age <15 = 9.2%, Age 45+ = 26.4%), African American mothers (11.8%), mothers with less than a high school education (8.5%), and those with two or more previous births (8.1%). Non Medi-Cal mothers had lower rates of low birthweight if they were age 20-30, White or Native American, or if they experienced one previous birth.

Among Medi-Cal singleton births, 5.5% were low birthweight. When examining singleton births alone, the lowest rate of low birthweight was seen among births paid by private insurance (4.7%) and among Medi-Cal Fee-for-Service births (5.2%). Slight increases in low birthweight rates were seen among beneficiaries of Medi-Cal Managed Care (6.3%) and among births funded by other public sources (6.5%).

Very Low Birthweight

Infants born at a very low birthweight (<1500 grams) have the lowest chances of survival. Infants born at less than 1500 grams account for over half (54.6%) of all infant deaths in the US.[9] Among all births paid by Medi-Cal, the proportion of very low birthweight was 1%. The very low birthweight rate was similar for births to Medi-Cal Managed Care beneficiaries (1.2%), Medi-Cal Fee-for-Service beneficiaries (1%), and births paid by private insurance (1.2%). Very low birthweight was twice as prevalent among Medi-Cal mothers who were age 45 and older (2.6%), African American mothers (2.6%), and those receiving Medi-Cal services through the Aged Blind and Disabled aid category (2.3%). Among non Medi-Cal births, the proportion of very low birthweight was highest among mothers age 45 and older (5.2%), mothers less than age 15 (2.0%), and among African American mothers (2.9%).

Preterm Delivery

Preterm births are almost twice as high in the US as compared to other developed countries in Europe.[25] Infants born premature are at increased risk for death and life-long disabling conditions including hearing and vision loss, respiratory problems, mental retardation and cerebral palsy.[6,7]

In 2006, 10.6% of birth to California resident mothers were born premature (<37 complete weeks of gestation). Preterm rates were similar among Medi-Cal Fee-for-Service beneficiaries (10.2%) and births paid by private insurance (10.0%), but slightly more prevalent among Medi-Cal Managed Care beneficiaries (12.4%) and births paid by other public funding sources (12.7%). Among Medi-Cal births, preterm rates were highest among younger mothers (Age <15 = 13.4%, Age 15-17 = 12.2%), and mothers in the older age categories (Age 35-44 = 13.7%, Age 45+ = 17.1%), mothers of Native American (12.2%), African American (15.5%), and multiple race/ethnicity (12.8%), US-born mothers (12.1%), mothers with two or more previous births (12.1%), and mothers receiving services through the Aged Blind and Disabled aid category (16.9%). Medi-Cal preterm rates were lowest among mothers who were age 18-30, foreign-born, had a college education, those who were first-time mothers, and those receiving services through the Undocumented aid category. Births not paid by Medi-Cal had preterm rates

which were elevated among younger mothers (Age < 18), mothers age 35 and older, mothers from all race and ethnic groups except White and Asian/Pacific Islander, mothers of lower educational attainment (less than high school), and among mothers with two or more previous births. More than half of all Medi-Cal (55%) and non Medi-Cal (55.4%) multiple gestation births were born premature.

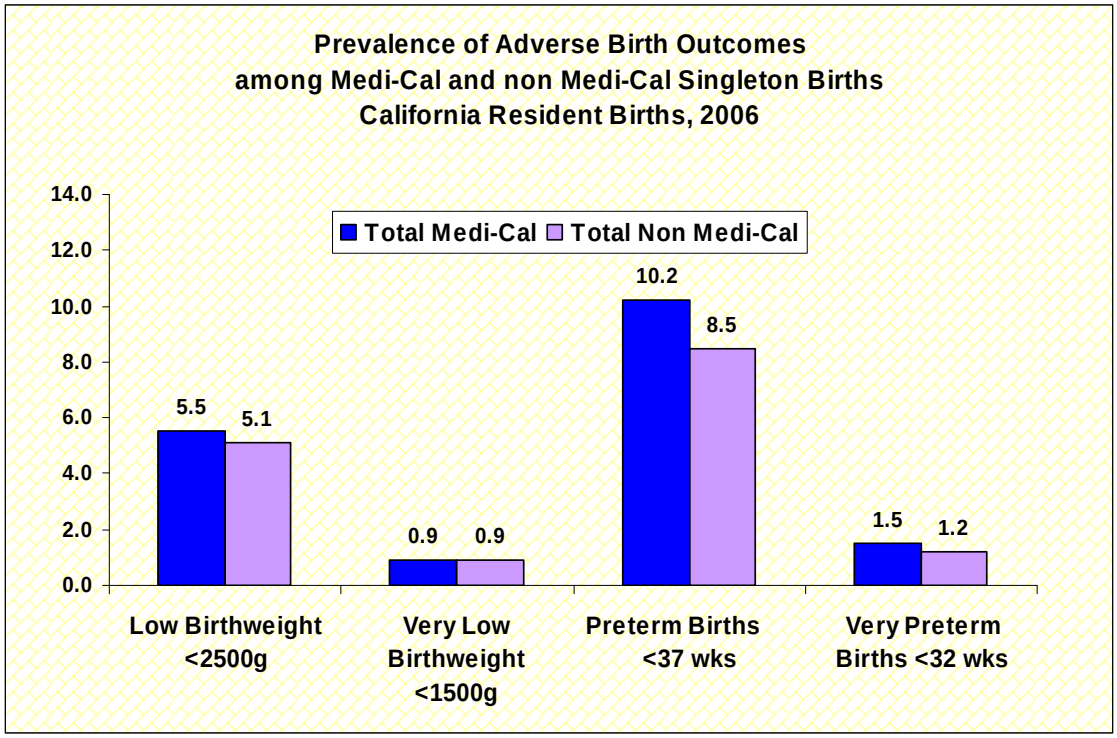
Among singleton births, preterm rates varied notably between Medi-Cal and non Medi-Cal financed births. Preterm rates among singleton births paid by private insurance were 8%, compared to 9.8% among the Medi-Cal Fee-for-Services births, 11.3% among the Medi-Cal Managed Care births, and 10.5% among births paid by other public funding sources.

Very Preterm Delivery

The proportion of very preterm deliveries (<32 complete weeks of gestation) were the same for Medi-Cal beneficiaries (1.6%) and non Medi-Cal births (1.6%). Very preterm deliveries were slightly more prevalent among Medi-Cal Managed Care beneficiaries (2.1%) and births paid for by other public funding sources (2.4%) Rates of very preterm deliveries were elevated among Medi-Cal mothers in the younger age categories (Age <15 = 2.6%, Age 15-17 = 2.3%), mothers age 35-44 (2.1%), Native American mothers (2.4%), mothers of multiple race/ethnicity (2.1%), and US-born mothers (2.1%). However, very preterm deliveries were more than twice as prevalent among Medi-Cal mothers age 45 and older (3.5%), among African American beneficiaries (3.5%), and among mothers receiving services through the Aged Blind and Disabled aid category (3.6%). The lowest proportion of very preterm births was to Medi-Cal mothers with a college degree or higher education (1.1%). Very preterm delivery rates for non Medi-Cal births were more than twice as high among mothers less than age 15 (3.5%) and African American mothers (3.4%), but nearly four times as high among mothers age 45 and older (6.3%). This may be due, in part, to the increased use of artificial reproductive technology as well as the increased likelihood of multiple gestation births among this age group.

Among singletons, births paid by private insurance had the lowest rate of very preterm at 1%, followed by Medi-Cal Fee-for-Service births at 1.4%. The highest rates

of very preterm among singletons births was among Medi-Cal Managed Care beneficiaries at 1.8%, and among births paid by other public funding sources (1.9%).



CONCLUSION

In summary, Medi-Cal beneficiaries with singleton deliveries had similar low birthweight and very low birthweight outcomes compared to their counterparts whose births were not paid by Medi-Cal. Preterm and very preterm rates were higher among Medi-Cal financed singleton births compared to births financed by non Medi-Cal sources. Variations in adverse birth outcomes were also observed when comparing Medi-Cal Fee-for-Service to Medi-Cal Managed Care births.

The descriptive data presented in this report show that a larger proportion of women in Medi-Cal were from subgroups most vulnerable to adverse birth outcomes. These subgroups include women receiving services through the Aged Blind and Disabled aid category, teen mothers, African American mothers, mothers of increased parity levels, and mothers of lower educational attainment. Protective factors such as

being foreign-born and receiving early prenatal care were less prevalent among the Medi-Cal Managed Care population. These factors may help explain some of the differences in rates of low birthweight, very low birthweight, preterm and very preterm deliveries that are reported here.

DEFINITIONS

Birthweight: Infant's birthweight is reported on the birth certificate in grams. Reported birthweights less than 227 grams or greater than 8650 grams were considered outside the range of plausible values and were recoded to "missing/out-of-range."

Delivery Diagnosis: Deliveries were identified in the Medi-Cal Fee-for-Service claims data using a primary diagnosis code of 650.0 or 640.0 - 676.0 with a 5th digit of '1' or '2.'

Gestational Age: Gestational age is recorded on the birth certificate, and reflects the number of days between the mother's last menstrual period and the date of birth. Gestational age less than 119 days or greater than 329 days were considered outside the range of plausible values and were recoded to "missing/out-of-range."

Infant Mortality: Death of an infant within the first year of life.

Multiple Gestation Birth: A delivery resulting in a twin or higher order birth.

Medi-Cal Aid Grouping: See attached definitions from the EDS Provider Manual.

Neonatal Mortality: Death of an infant within the first 28 days of life.

Reproductive Age: We defined women of reproductive age as those between the ages of 10 and 60. Observations from the birth certificate containing a maternal age of less than 10 or greater than 60 were considered outside the range of plausibility, and were recoded to "unknown" age.

Resident Births: Resident births are defined as births to mothers who report an address on the 2006 birth certificate that is within the state of California.

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